

Translation

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000054233	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/000549	International filing date (day/month/year) 21 January 2003 (21.01.2003)	Priority date (day/month/year) 24 January 2002 (24.01.2002)
International Patent Classification (IPC) or national classification and IPC C07F 9/22		
Applicant BASF AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 02 May 2003 (02.05.2003)	Date of completion of this report 11 December 2003 (11.12.2003)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☒ the international application as originally filed.
- ☒ the description, pages 1-97, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____
pages _____, filed with the letter of _____
- ☒ the claims, Nos. 1-16, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. _____, filed with the letter of _____
Nos. _____, filed with the letter of _____
- ☐ the drawings, sheets/fig _____, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____
sheets/fig _____, filed with the letter of _____

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☐ claims Nos. _____

because:

☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. _____ are so inadequately supported
by the description that no meaningful opinion could be formed.

☐ no international search report has been established for said claims Nos. _____

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: III.

**Non-establishment of opinion with regard to novelty,
inventive step and industrial applicability**

The applicant is invited to restrict the application to
claims 1 to 10 and 14 to 16 and to adapt the description
accordingly.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10, 14-16	YES
	Claims		NO
Inventive step (IS)	Claims	1-10, 14-16	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10, 14-16	YES
	Claims		NO

2. Citations and explanations

1. Citations

Reference is made to the following documents:

D1: DE 197 24 884 A (BASF AG) 17 December 1998
(1998-12-17), cited in the application

D2: DE 198 26 936 A (BASF AG) 23 December 1999
(1999-12-23), cited in the application

D3: EP-A-1 142 898 (YOSHITOMI FINE CHEMICALS LTD)
10 October 2001 (2001-10-10), cited in the
application

2. Novelty (PCT Article 33(2))

The present application concerns a method of
producing aminophosphorus compounds and a method of
separating acids or for stopping acid-catalysed
reactions.

D1 and D2 concern a method of producing
carbonyldiimidazoles.

D3 concerns a method of producing phosphonites.

None of the citations describes the production of
aminophosphorus compounds or a method in which the

product and base are distilled directly off the reaction mixture, or a method of stopping acid-catalysed reactions.

The present application meets the requirements of PCT Article 33(2) since the subject matter of claims 1 to 10 and 14 to 16 is novel.

3. Inventive step (PCT Article 33(3))

D3 is considered the closest prior art.

The problem addressed by the present invention can thus be considered that of devising an alternative method for the simplified separation of acids from reaction mixtures.

The technical problem is solved by the use of a base that forms a liquid salt with the acid.

None of the citations, either alone or in combination suggests:

producing aminophosphorus compounds as per claim 1; distilling the product and base off the reaction mixture (claims 14 and 15); or separating a catalyst from the reaction mixture (claim 16).

The present application meets the requirements of PCT Article 33(3) since the subject matter of claims 1 to 10 and 14 to 16 involves an inventive step.

4. Industrial applicability (PCT Article 33(4))

The present application meets the requirements of PCT Article 33(4) since the subject matter of claims 1 to 10 and 14 to 16 can be considered industrially

applicable.

5. Clarity (PCT Article 6)

The third paragraph (page 25, lines 14 to 17) is not covered by the current claims. This inconsistency between the claims and the description gives rise to uncertainty as to the subject matter for which protection is sought; the claims are hence unclear (PCT Article 6).

Embodiments 1 to 9 and 11 to 43 are not covered by the current claims. This inconsistency between the claims and the description gives rise to uncertainty as to the subject matter for which protection is sought; the claims are hence unclear (PCT Article 6). The applicant should note that documents D1 to D3 may be prejudicial to novelty if the claims are broadened.

6. Other defects in the application

The applicant is requested to replace the references to patent applications by references to published documents (page 42, lines 10, 12, 14, 19, 23, 27; and page 43, line 2) and to correct the errors on page 44, lines 8 and 27.